TMDL for Temperature in the Columbia and Lower Snake Rivers

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DEPARTMENT OF ECOLOGY
State of Washington

Today's agenda

1. Why we're here: Columbia and Lower Snake River TMDL
2. Update from EPA
3. Implementation Planning
4. How to stay involved
5. Questions & comments

Why we're here

Salmon are in hot water in the Columbia and Lower Snake Rivers

Why we're here

Temperatures are rising in the Columbia and Lower Snake Rivers

Water quality standards are not being met in the summer months

Climate change is impacting water quality

Big step in 2020: EPA's TMDL

Washington water quality criteria ranges 16°-20°C

Table 2-2 Water quality criteria used to evaluate water quality exceedances in the Columbia and lower Snake River TMDL (July – October)

RMs	Jurisdiction	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WQC Applied
Columbia River														
745 – 646.5	WA	16° C 7-DADM (WA)												**16° C 7-DADM**
639 – 596	WA	16° C 7-DADM (WA)												**16° C 7-DADM**
596 – 545	WA	17.5° C 7-DADM (WA)												**16° C 7-DADM**
545 – 534	WA	17.5° C 7-DADM (WA)												**17.5° C 7-DADM**
534 – 397	WA	17.5° C 7-DADM (WA)												**17.5° C 7-DADM**
397 – 309	WA	20° C DM (WA)												**17.5° C DM**
309 – 143.5	WA, OR	20° C DM (WA) – 20° C 7-DADM (OR)												**20° C DM**
143.5 – 141.5	WA, OR	20° C DM (WA) 13° C 7-DADM (OR)			20° C DM (WA) 20° C 7-DADM (OR)						20° C DM (WA) 13° C 7-DADM (OR) (after Oct 15th)			**20° C DM and 13° C 7-DADM**
141.5 – 0	WA, OR	20° C DM (WA) – 20° C 7-DADM (OR)												**20° C DM**
Snake River														
139 – 0	WA	20° C DM (WA)												**20° C DM**

DM = daily maximum temperatures

7-DADM = 7-day averages of daily maximum temperatures

Columbia basin crosses boundaries

- EPA responsible for writing TMDL
- TMDL was written for both Washington and Oregon waters
- We will work closely with Oregon on implementation

Total Maximum Daily Load (TMDL)

A TMDL:

Calculates the maximum amount of a pollutant allowed to enter a waterbody so that it will meet water quality standards

Then,

Determines a pollutant reduction target

And,

Allocates load reductions necessary to the source(s) of the pollutant

History behind the TMDL

2000: EPA and Washington, Oregon and Idaho entered into a MOA to address temperature on the Columbia and Snake mainstems.

2003: EPA released a preliminary temperature TMDL.

2017: EPA sued by Columbia Riverkeeper for not completing TMDL and under a court order to issue the TMDL by Dec 17, 2018.

History behind the TMDL

December 2018: EPA received stay from the judge and the TMDL requirement put on hold while the appeal was heard.

December 2019: Ninth Circuit Court of Appeals ruled EPA had 30 days to complete and issue the Temperature TMDL.

May 18, 2020: EPA issued final temperature TMDL.

What happened in 2020

May 2020

EPA published final temperature TMDL

August 2020

We submitted comment to EPA, along with many others

2021

Early stages of implementation

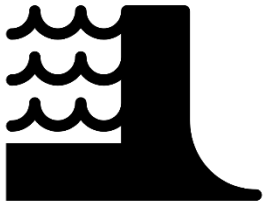
EPA's Temperature TMDL

Temperature standards are not being met in summer months

Standards may not be met in all places, at all times

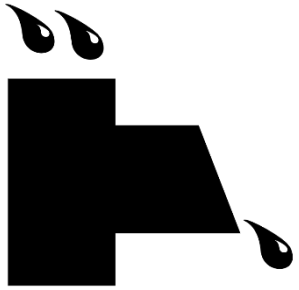
- Use Attainability Analysis

Sources influencing temperature

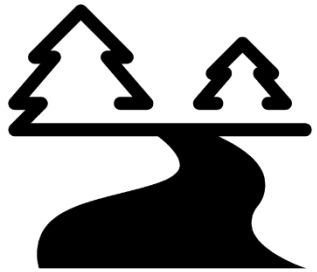


Nonpoint sources: dams and tributaries

Climate change



Point sources

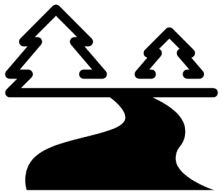


Natural sources

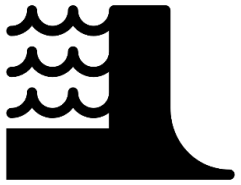
Geographic boundary conditions

Loading capacity is **0.3°C** increase to standards

0.1°C to permitted point sources



0.1°C to tributaries



0.1°C to nonpoint source dam impacts

Our comments to EPA

Support for TMDL

We are focused on implementation, not changing standards

More guidance from EPA

- Addressing climate change
- Upstream sources
- Working with dams

Update from EPA

Jill Nogi, Washington State TMDL Lead
Jennifer Byrne, Attorney
Ben Cope, Lead TMDL modeler
Cami Grandinetti, Watershed Branch Manager

John Palmer, Lead Cold Water Refuge Report
Mary Lou Soscia, Columbia River Coordinator
Jenny Wu, NPDES permits

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Implementation Planning

Project lead: Kelly Ferron, Kelly.ferron@ecy.wa.gov

Nonfederal dams: Breean Zimmerman, breean.zimmerman@ecy.wa.gov

NPDES permits: Greg Zentner, greg.zenter@ecy.wa.gov

Tributaries: Ben Rau, ben.rau@ecy.wa.gov

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What does implementation look like?

1) Stakeholder & tribal engagement process to receive input

2) Writing an implementation plan

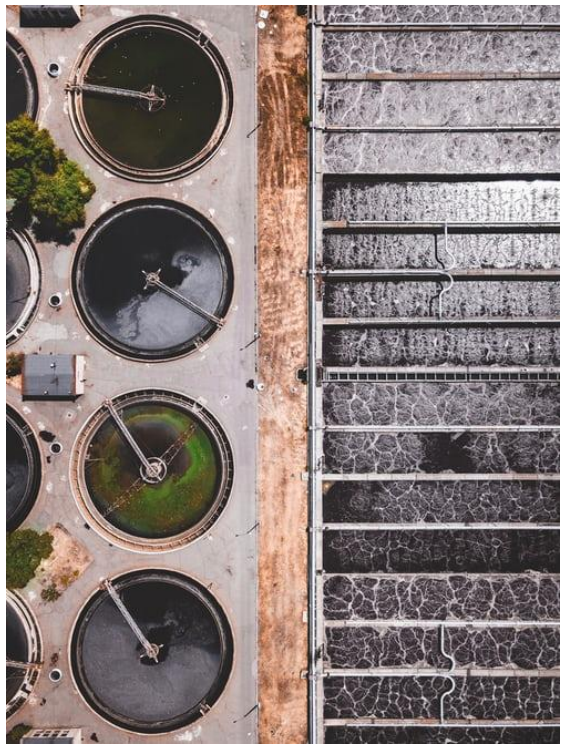
3) Publishing plan with public comment period

Stakeholder and tribal engagement

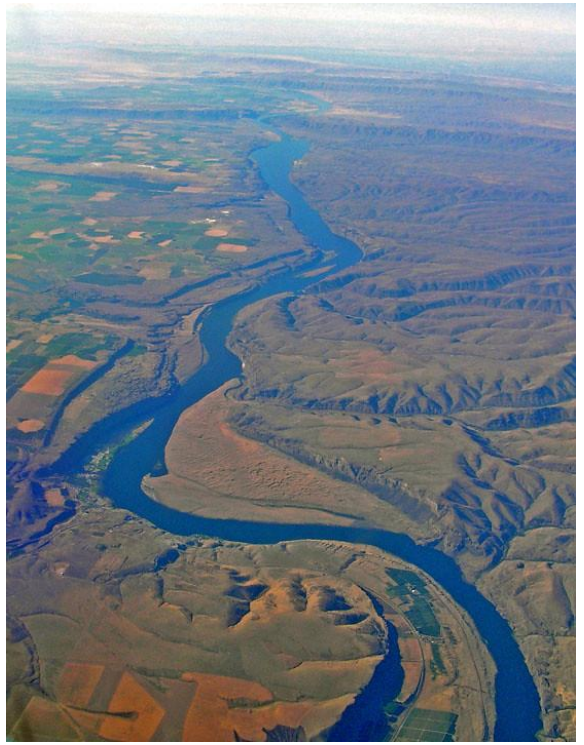
- Presentations to interested groups
- We will start to meet with individual sources (i.e. dams)
- We will host more formal meetings in future

Writing an implementation plan

Federal & nonfederal dams



Point sources: NPDES permits



Tributaries

Dams

15 dams identified in TMDL

- 5 nonfederal dams– operated by PUDs
- 10 federal dams- USACE, Bureau of Reclamation

Load Allocations (LA): implemented through 401 certifications

- Heat contributed by impounding the river in reservoirs behind the dams considered a nonpoint source

Waste load allocations (WLA): implemented through NPDES permits

- Cooling water and other pollutants discharged through discrete pipes.

401 Water Quality Certifications

- Issued by states for federal permitted activities.
- Issued under the authority of **Section 401 of the Clean Water Act**.
- In many cases, Washington state standards are more protective of water quality than federal standards.

Goal:

To make sure the federal permitted activities meet state water quality standards.

Federal dams

401 certifications for federal dams

- EPA is responsible for implementing clean water regulations on federal and tribal lands
- EPA-issued federal NPDES permits to Columbia and Snake dams require 401 certifications

Working with federal dams

- Operated by US Army Corps of Engineers, Bureau of Reclamation, Bonneville Power Administration
- At their request, we have started meeting with dams

NPDES Permit & 401 Certifications at federal dams

- Pre-TMDL: EPA proposed draft permits for 8 federal dams to control discharges of oil and grease. Ecology issued 401 Certifications.
- May 2020: Army Corps of Engineers appealed 401 certifications for 8 federal dams.
- Appeal will go to PCHB in August 2021.
- EPA modified WLAs in NPDES permits and open for public comment through Feb 15

Nonfederal dams

NPDES Permits

- Working with PUDs to develop NPDES permits for oil and grease and cooling water discharges

401 Water Quality Certifications at PUD dams

- Federal Energy Regulatory Commission (FERC) required license at each dam
- We issue 401 certifications for these licenses
- 5 nonfederal dams operated by Chelan, Douglas and Grant PUDs
- These 401 certifications reference requirement to meet allocations in Columbia River TMDL

Nonfederal dams

Working with nonfederal dams:

- PUD dams monitor for temperature impacts & share data with Ecology

- We will reach out to PUDs (Chelan, Douglas, Grant) in the near future to set up meetings

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Other Point Sources

- Primarily Industries and Municipalities. See Tables 6-12, 6-13, and 6-14 in the TMDL for WLAs.
- Washington is implementing WLAs as Average Monthly Limits for Heat Load in permits upon permit expiration and re-issuance.
- Allocations should be more than sufficient for existing operations.
- Process for reissued permits:
  - Application and permit development
  - Two week facility review of draft permits (fact check)
  - 30-day comment period
  - Final permit with compliance schedules if needed (probably not)

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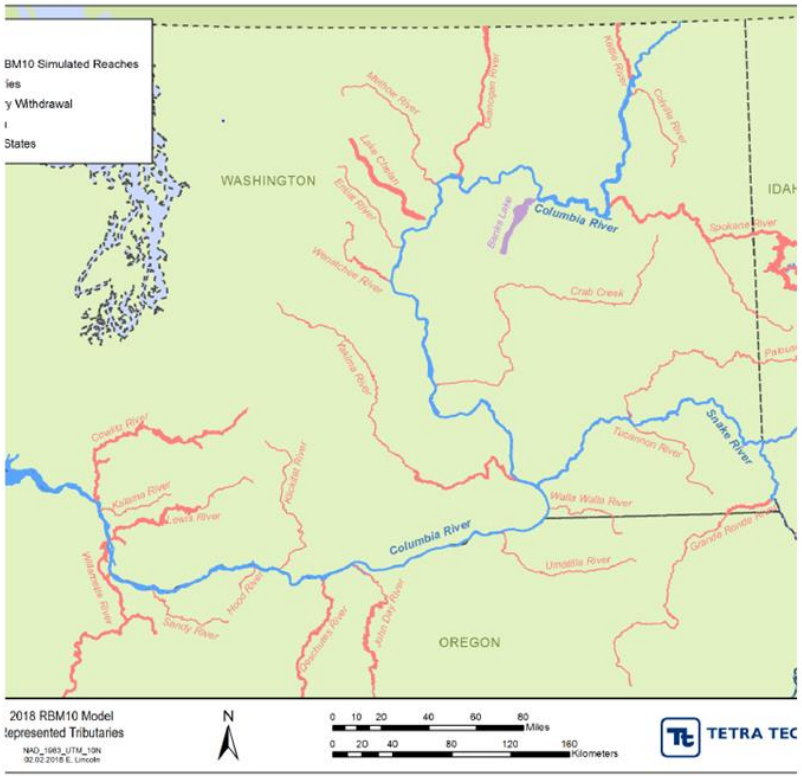
Tributaries

What did the TMDL say?

- Allocated 0.1°C to tributaries
- The 0.1°C is a cumulative allocation-i.e. the cumulative impact of the tributaries upstream of any point on the Columbia can not exceed 0.1°C
- The model did not cover the tributaries-The mouth of each tributary is an input into the model.
- TMDL found that to meet the allocation there could be a 0.5°C human impact within each tributary-that is the target set by the TMDL.



Tributaries

Initial thoughts on possible implementation plan components:

- Bottom line for tributaries is to minimize human impacts (0.5°C target).
- Prioritizing tributaries for work or further modeling.
- Role of TMDLs and Straight to Implementation or other alternative restoration approaches.
- Strategies to get implementation on the ground:
  - Incentives.
  - Technical and financial assistance.
  - Watershed evaluations/surveys to identify human impacts.
  - Regulatory backstop.
- Cold water refuges.

How to stay updated and engaged on the TMDL and implementation

To join our email distribution list:
email Kelly.Ferron@ecy.wa.gov

Check our webpage for updates:
www.ecology.wa.gov/ColumbiaSnakeTMDL

Questions?

Please type your questions into the chat box to “All Panelists” or use the “raise your hand” feature.

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Ecology Contacts

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